AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (cancelled)

2. (currently amended) The mower of claim [[1]]28, wherein the at least two wheels are hydraulically driven and further comprising:

at least one hydraulic pump that provides a flow of hydraulic fluid to drive the at least two wheels.

3. (original) The mower of claim 2, further comprising:

at least one proportional servo valve that controls a direction and speed of the flow of hydraulic fluid to the at least two wheels, the at least one valve being controlled by the microprocessor and adjusting the flow of hydraulic fluid to the at least two wheels in response to signals received from the microprocessor, the adjusting of the flow of hydraulic fluid by the at least one valve controlling the direction and speed of rotation of the at least two wheels so that the mower can be propelled and steered.

4. (previously presented) The mower of claim 3, wherein:

the at least one hydraulic pump is one of a plurality of hydraulic pumps;

a first hydraulic pump of the plurality of hydraulic pumps provides a flow of hydraulic fluid to the first wheel;

a second hydraulic pump of the plurality of hydraulic pumps provides a flow of hydraulic fluid to the second wheel;

the at least one proportional servo valve is one of a plurality of proportional servo valves;

a first valve of the plurality of valves adjusting the flow of hydraulic fluid from the first hydraulic pump of the plurality of hydraulic pumps to the first wheel of the at least two wheels in response to signals received from the microprocessor; and

a second valve of the plurality of valves adjusting the flow of hydraulic fluid from the second hydraulic pump of the plurality of hydraulic pumps to the second wheel of the at least two wheels in response to signals received from the microprocessor.

5. (cancelled)

6. (currently amended) The mower of claim [[1]]60, wherein:

the first and second controllers are each selectively moveable between forward and reverse positions;

movement of the first controller toward the forward position causing the first wheel to rotate in a direction that corresponds to propelling the mower in a forward direction and movement of the first controller toward the reverse position causing the first wheel to rotate in a direction that corresponds to propelling the mower in a backward direction; and

movement of the second controller toward the forward position causing the second wheel to rotate in a direction that corresponds to propelling the mower in a forward direction and movement of the second controller toward the reverse position causing the second wheel to rotate in a direction that corresponds to propelling the mower in a backward direction.

7. (previously presented) The mower of claim 6, wherein:

each controller has a neutral position disposed between the forward and reverse positions;

positioning of the first controller in the neutral position causing the first wheel to not be driven; and

positioning of the second controller in the neutral position causing the second wheel to not be driven.

8. (original) The mower of claim 7, wherein:

the first and second controllers are each biased to the neutral positions so that the first and second controllers return to the neutral positions when no force is being applied to the first and second controllers.

9. (previously presented) The mower of claim 7, wherein:

movement of the first and second controllers from the neutral position toward the forward and reverse positions causes a speed of rotation of the respective first and second wheels to increase in proportion to the movement of the first and second controllers from the neutral position.

10. (previously presented) The mower of claim 9, wherein:

the proportional increase in the speed of rotation of the first and second wheels in response to movement of the first and second controllers from the neutral positions toward the forward positions is greater than the proportional increase in the speed of rotation of the first and second wheels in response to movement of the first and second controllers from the neutral positions toward the reverse positions so that the mower is capable of being propelled faster in the forward direction than in the backward direction.

11. (currently amended) The mower of claim [[1]]28, wherein the at least one controller further comprises:

a first controller that sends signals to the microprocessor that the microprocessor uses to control the operation of the at least two wheels, the signals from the first controller informing the microprocessor of whether the mower is to be propelled in a forward or backward direction; and

a second controller that sends signals to the microprocessor that the microprocessor uses to control the operation of the at least two wheels, the signals from the second controller informing the microprocessor of a direction in which the mower is to be steered.

12. (original) The mower of claim 11, wherein:

the first controller is selectively moveable between forward and reverse positions;

movement of the first controller toward the forward position causing the at least two wheels to rotate in a direction that corresponds to propelling the mower in a forward direction and movement of the first controller toward the reverse position causing the at least two wheels to rotate in a direction that corresponds to propelling the mower in a backward direction;

the second controller is selectively moveable between left and right positions; and

movement of the second controller toward the left position causing the at least two wheels to rotate at different rates so that the mower turns to the left and movement of the second controller toward the right position causing the at least two wheels to rotate at different rates so that the mower turns to the right.

13. (original) The mower of claim 12, wherein:

the first controller has a neutral position disposed between the forward and reverse positions; and

positioning of the first controller in the neutral position causes the at least two wheels to not be driven.

14. (original) The mower of claim 13, wherein:

the first controller is biased to the neutral position so that the first controller is positioned in the neutral position when no force is being applied to the first controller.

15. (original) The mower of claim 13, wherein:

movement of the first controller from the neutral position toward the forward and reverse positions causes a speed of rotation of the at least two wheels to increase in proportion to the movement of the first controller from the neutral position.

16. (original) The mower of claim 15, wherein:

the proportional increase in the speed of rotation of the at least two wheels in response to movement of the first controller from the neutral position toward the forward position is greater than the proportional increase in the speed of rotation of the at least two wheels in response to movement of the first controller from the neutral position toward the reverse position so that the mower is capable of being propelled faster in the forward direction than in the backward direction.

17. (original) The mower of claim 13, wherein:

the first controller is a joystick that moves linearly between the forward and reverse positions.

18. (original) The mower of claim 13, wherein:

the first controller is a foot pedal that rotates about an axis between the forward and reverse positions.

19. (original) The mower of claim 12, wherein:

the second controller has a neutral position disposed between the left and right positions; and

positioning of the second controller in the neutral position causes the second controller to not effect a rate at which each of the at least two wheels rotate.

20. (original) The mower of claim 19, wherein:

the second controller is biased to the neutral position so that the second controller is positioned in the neutral position when no force is being applied to the second controller.

21. (original) The mower of claim 19, wherein:

movement of the second controller from the neutral position toward the left and right positions causes the difference in the rate of rotation of the at least two wheels to increase in proportion to the movement of the second controller from the neutral position.

22. (original) The mower of claim 19, wherein:

the second controller is selectively moveable between extreme left and extreme right positions, the extreme left and extreme right positions being disposed beyond the respective left and right positions so that the second controller must move past the left and right positions to reach the respective extreme left and extreme right positions; and

movement of the second controller past the left position toward the extreme left position causes the mower to counter steer left and movement of the second controller past the right position toward the extreme right position causes the mower to counter steer right.

23. (original) The mower of claim 22, wherein:

movement of the second controller past the left and right positions toward the respective extreme left and extreme right positions causes a speed of the counter steer to increase in proportion to the movement past the left and right positions.

24. (original) The mower of claim 22, wherein:

movement of the second controller past the left and right positions toward the respective extreme left and extreme right positions provides a tactile sensation so that an operator of the mower will feel the tactile sensation prior to the mower counter steering.

25. (original) The mower of claim 22, wherein:

the second controller is a steering wheel that rotates; and

rotation of the steering wheel causes the second controller to move between the extreme left and extreme right positions.

26. (original) The mower of claim 22, wherein:

the second controller is a joystick that moves linearly between the extreme left and extreme right positions.

27. (cancelled)

28. (previously presented) A drive-by-wire riding lawn mower, the mower comprising:

at least two independently driven wheels capable of bi-directional rotation, the at least two wheels being independently driven so that operation of the at least two wheels causes the at least two wheels to independently rotate which propels and steers the mower;

a microprocessor, the microprocessor controlling the operation of the at least two wheels in accordance with signals received by the microprocessor;

at least one controller, the at least one controller sending signals to the microprocessor that the microprocessor uses to control the operation of the at least two wheels so that operation of the at least one controller causes the at least two wheels to propel and steer the mower;

a mode switch, the mode switch being selectively operable between a work position and a transport position to adjust the operation of the at least two wheels, the work position corresponding to normal operation of the mower and the transport position corresponding to high speed operation of the mower, and the mode switch sending a signal to the microprocessor that the microprocessor uses to control the operation of the at least two wheels; and

the microprocessor operating the mower in a normal mode when the mode switch is in the work position and reducing a rate at which the at least two wheels steer the mower when the mode switch is in the transport mode by reducing a sensitivity to a steering input from the at least one controller so that the mower can safely turn during high speed operation.

29. (currently amended) The mower of claim [[1]]28, further comprising:

a gain controller that is selectively operable, the gain controller allowing a user of the mower to adjust the response of the mower caused by operation of the first and second controllers, and operation of the gain controller causing the gain controller to send signals to the microprocessor that inform the microprocessor on how to interpret signals from the first and second controllers; and

the microprocessor adjusts the operation of the at least two wheels in response to signals received by the microprocessor from the first and second controllers based upon signals received from the gain controller.

30-59. (cancelled)

60. (new) The mower of claim 28, wherein the at least one controller includes a first controller and a second controller, the first controller sending signals to the microprocessor for controlling the operation of a first wheel of the at least two wheels so that operation of the first controller causes the first wheel to rotate, the second controller sending signals to the microprocessor for controlling the operation of a second wheel of the at least two wheels so that operation of the second controller causes the second wheel to rotate, and the first and second controllers enable operation of the mower in any of the group of forward, reverse, left turn, and right turn.